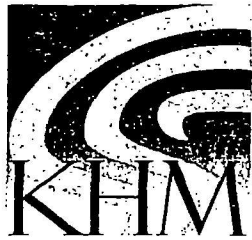


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ENVIRONMENTAL MANAGEMENT, INC.

April 22, 2003
Project B30-01J

Mr. Don Pettit, R.G.
Oregon Department of Environmental Quality-NW Region
2020 SW 4th, Suite 400
Portland, Oregon 97201

**Re: Work Plan for IRAM Pump Test
KMLT Linnton Terminal
Portland, Oregon**



Dear Mr. Pettit:

On behalf of Kinder Morgan Liquid Terminals, LLC (KMLT), KHM Environmental Management, Inc. (KHM) has prepared this work plan for conducting an interim remedial action measures (IRAM) aquifer pump test at the above-referenced site. The goal of these proposed activities is to obtain additional aquifer data that will be used to further assess options to inhibit the seepage of petroleum hydrocarbons to the Willamette River.

SCOPE OF WORK

The scope of work to achieve the above-stated goals consists of three tasks, 1) conduct pump test, 2) data analysis, and 3) design IRAM system.

TASK 1 – CONDUCT PUMP TEST

KHM will conduct a pump test on Well RW-3 located along the riverfront near the groundwater seep to the Willamette River. The proposed pump test will last for approximately 24 hours. This time frame was chosen to correspond with the daily tidal cycle in order to assess the effects of the tidal change of the river on the pumping rate and/or induced changes in the groundwater surface around the extraction well (cone of depression).

During the pump test, groundwater levels will be monitored and recorded in Wells MW-10, MW-19, RW-1, RW-2, RW-4 and RW-5 using down-hole transducer/dataloggers. KHM proposes operating the pump test such that there is approximately four to six feet of drawdown in Well RW-3. This corresponds with the estimated bottom of the seawall structure. KHM anticipates that the targeted drawdown will be achieved at an approximate pumping rate of 10-15 gallons per minute (gpm).

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The extracted groundwater will be pumped to a temporary storage tank. The extracted water will be drawn off the bottom of the temporary tank and treated using activated carbon prior to discharge to the Willamette River in accordance with NPDES Permit File No. 32300.

TASK 2 – DATA ANALYSIS

The data from the pump test will be used to assess the effectiveness of pumping to create a hydraulic barrier along the seawall to inhibit the groundwater seep in the IRAM area. The data analysis will include an estimate of hydraulic conductivity, transmissivity, and specific yield. This information will be used to estimate the number of wells and extraction rate to provide effective control of the groundwater seepage to the Willamette River.

TASK 3 – DESIGN IRAM SYSTEM

Upon completion of the data analysis task, KHM will prepare a conceptual IRAM design. This design will be based upon the data collected during the first pilot test and this proposed pump test. After completion of the conceptual design, a meeting with the Department of Environmental Quality (DEQ) will be scheduled to discuss the goals for the IRAM and the conceptual design.

SCHEDULE

KHM has tentatively scheduled the IRAM pump test for the first full week of May 2003. We would like to have DEQ's approval of this work plan prior to finalizing this schedule. During June 2003, the proposed design of an IRAM system will be presented to DEQ for approval prior to installation.

KHM and Kinder Morgan look forward to working with you on this project. If you need further information or have any questions, please call either of the undersigned at (503) 639-8098.

Sincerely,

KHM Environmental Management, Inc.



Kelly A. Kline, R.G.
Senior Project Geologist



R. Scott Miller, P.E.
Principal Engineer

Attachments: Figure 1 – Site Map

cc: Mr. Eric Conard, Kinder Morgan Energy Partners, Orange, California
Mr. Steve Osborn, Kinder Morgan Energy Partners, Rocklin, California

